

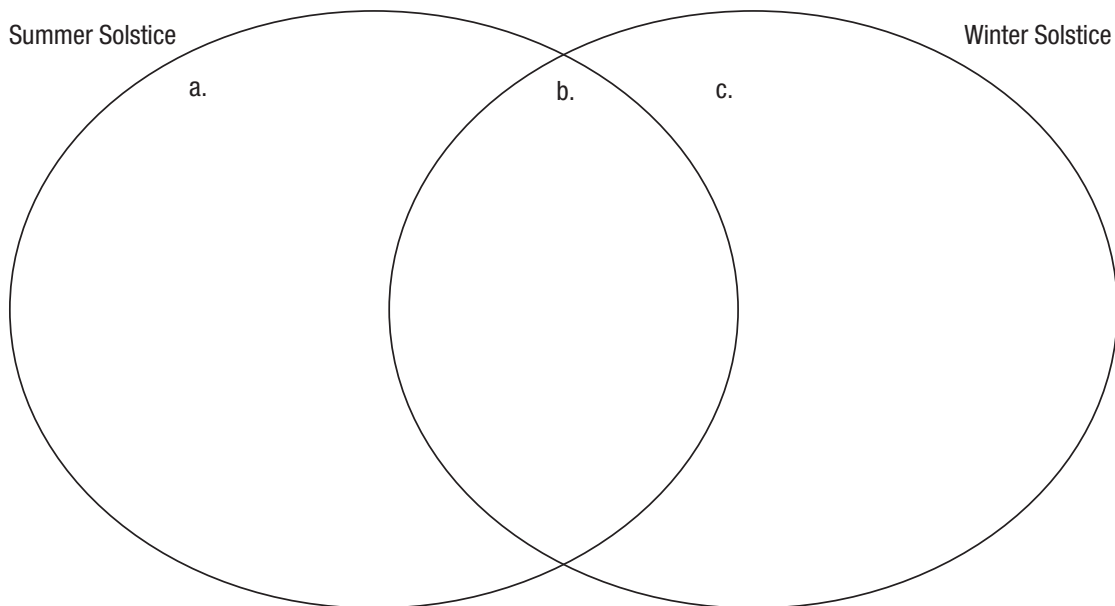
## Chapter 17 The Atmosphere: Structure and Temperature

## Section 17.1 Atmosphere Characteristics

*This section describes the components and vertical structure of the atmosphere. It also explains how the relationship between Earth and the sun causes the seasons.*

### Reading Strategy

**Comparing and Contrasting** As you read, complete the Venn diagram by comparing and contrasting summer and winter solstices. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



1. \_\_\_\_\_ is the state of the atmosphere at any given time and place.

### Composition of the Atmosphere

2. Circle the letter of the gas that is the largest component of the atmosphere.

a. oxygen                      b. nitrogen  
c. water vapor                d. carbon dioxide


3. Is the following sentence true or false? The source of all clouds and precipitation is water vapor. \_\_\_\_\_

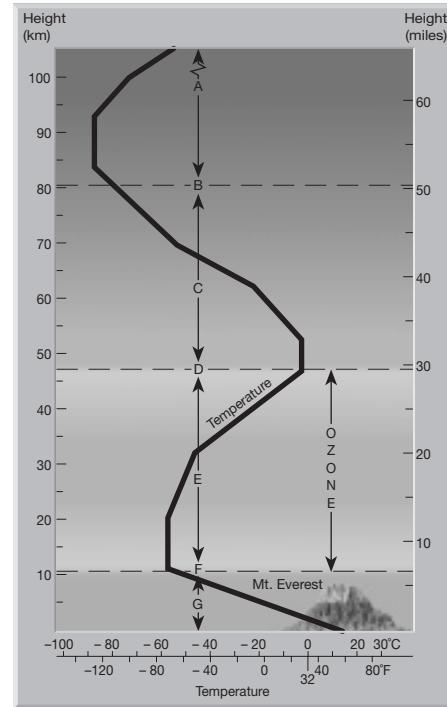
4. Why is the ozone layer crucial to life on Earth? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Height and Structure of the Atmosphere

5. Is the following sentence true or false? Atmospheric pressure increases with height.  
\_\_\_\_\_

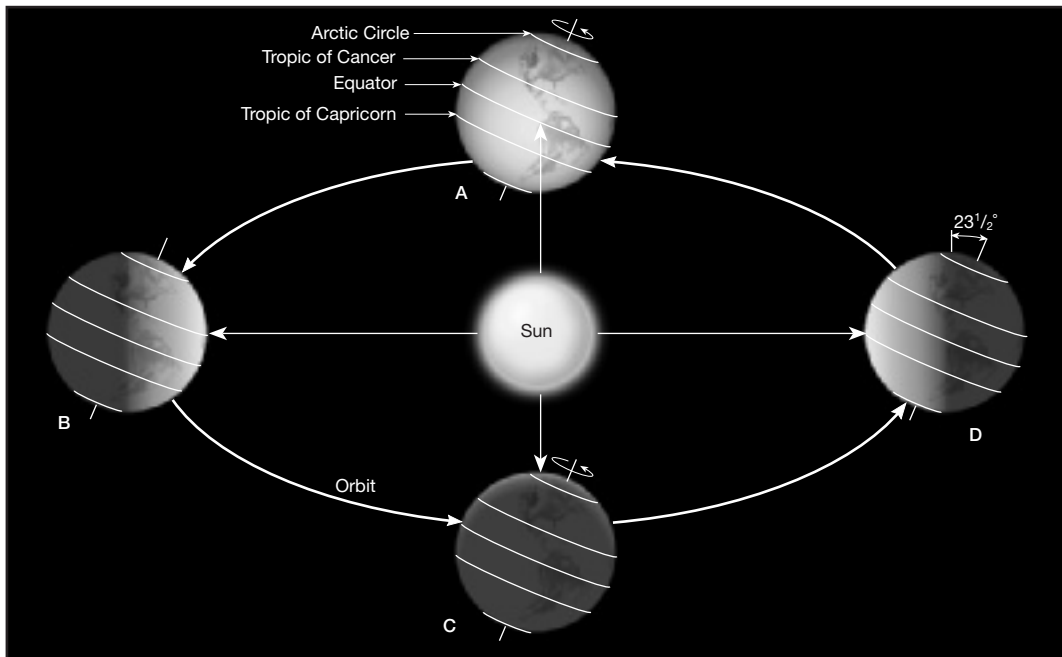
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6. Select the appropriate letter in the figure that identifies each of the following layers of the atmosphere.
- \_\_\_\_\_ mesosphere      \_\_\_\_\_ thermosphere  
\_\_\_\_\_ troposphere      \_\_\_\_\_ stratosphere
7.  In the figure, the atmosphere is divided vertically into four layers based on \_\_\_\_\_.
8. Circle the letter of the layer of the atmosphere that contains the ozone layer.
- a. troposphere      b. stratosphere  
c. mesosphere      d. thermosphere



## Earth-Sun Relationships

9. What are Earth's two principal motions?  
\_\_\_\_\_
10. Select the appropriate letter in the figure that identifies each of the following months.
- \_\_\_\_\_ March      \_\_\_\_\_ December  
\_\_\_\_\_ June      \_\_\_\_\_ September



11. Is the following sentence true or false? At position B in the figure, the Northern Hemisphere will have longer daylight than darkness. \_\_\_\_\_
12.  What causes seasonal changes? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_